The effect of tow modes of educational intervention on attitude toward cesarean section and vaginal delivery in pregnant women

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Abstract: The request for cesarean section has increased. According to importance of educational and behavioral intervention, this study performed to determine the effect of tow modes of educational intervention on pregnant women's attitudes toward vaginal delivery and cesarean section. This is quasi experimental and prospective study.Women who were in 3rd trimester of pregnancy selected. Sampling was multistage and purposeful. Case group received planned educational intervention and control group receive routine educational intervention. Questionnaires were filled before and one month after intervention. Data was analyzed by SPSS software using descriptive, analytical statistics. Mean age in control group and case group were 24.20(4.73), 23.44(4.9) respectively. There was significant difference between mean score of total attitude between case and control group, after educational intervention. ($p<0.05$). More studies about attitude and behavioral intervention suggested.

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1.Introduction

Today, caesarean section is one of the most preferred surgeries throughout the world, but its increase due to non-medical reasons is also observed across the globe. This increase in the caesarean section illustrates that neither health system employees nor their clients regard this surgery to entail any serious dangers (World Health Organization, 2010).

Statistics reveal that 25.7% of all deliveries are caesarean section, ranging from 2.3% in Angola to 46.2% in China. The caesarean section due to non-medical reasons ranges from 0.01% to 2.1% in 23 countries (World Health Organization, 2010). According to the published statistics of the World Health Organization, the rate of caesarean section in Iran is 41.9%, 6% of which is unnecessary(Gibbons L et al., 2010)

The factors affecting caesarean section are complex and considering them in efficacy of interventions to reduce caesarean section is extremely challenging. The decision to perform caesarean section is made by the mother and the physician, and can be influenced by a wide range of external factors. This decision can be made during pregnancy or even before delivery with medical reasons (for mother and the baby), or due to psychological or social reasons (Khunpradit S et al., 2011).

Although there are behavioral and interventional factors at different levels of programming that affect the behavior related to caesarean surgery, one of the factors related to mothers is the mothers' attitude and their request for caesarean section(Yazdizadeh et al., 2011). The maternal request for caesarean section is a controversial factor in caesarean and occurs in presence of lack of medical and midwifery indices(Cunninngham, 2010). In fact, attitude is an emotional response based on knowledge and the approach of an acceptable attitude is sourced from the Allport concept and that evaluation of an individual is from acceptability or non-acceptability of his purpose or action(Zanna & Rempel, 2008).

Mother's complications are twice as much in caesarean section in contrast vaginal delivery. The principle causes include postpartum infection, bleeding, and thromboembolism. It has been mentioned that not all complications appear

immediately after delivery. Declea et al. found that re-admission to the hospital 30 days after delivery in caesarean section is twice as much as in vaginal delivery(Cunninngham, 2010).

Belief in quick recovery in vaginal delivery(Aali & Motamedi, 2005; Manthata, Hall, Steyn, & Grove, 2006; Stoll, 2009), better mother-baby bonding are the trends related to vaginal delivery(Aali & Motamedi, 2005; Manthata et al., 2006; mostafavizade, mashughi, & rostamnejad, 2006; Stoll, 2009), fear of vaginal delivery and contractions related to vaginal delivery(mostafavizade et al., 2006; Stoll, 2009) are the primary reasons for preferring caesarean section over vaginal delivery. Also, the right to choose delivery method is among reasons given for maternal tendencies(Hogberg, Lynoe, & Wulff, 2008).

Although some studies reject the belief in mothers' attitude and request for caesarean section and blame healthcare system for the increase in caesarean section in the recent two decades(Lee, Khang, & Lee, 2004), all levels are important in education and interventions.

There have been some studies on attitude in Iran as well as studies on the effect of education on attitude(Aali & Motamedi, 2005; Amidi & Akbarzadeh 2006; mostafavizade et al., 2006; Sharifirad, Rezaeian, Soltani, Javaheri, & Amidi Mazaheri, 2010; Tofighi Niaki, Behmanesh, Mashmuli, & Azimi 2010), but in respect of assessment of the attitudes of those who have almost definitely decided to have caesarean section, there have not been any studies other than a few minor cases(Sharifirad et al., 2010). In a study by Moeini (Moeini, Besharati, Hazavehei, & Moghimbeigi, 2011), the mean score of attitude in elective caesarean group was lower than that in the case groups, the same study recommends solutions such as education of pregnant women and young girls according to theory and behavioral patterns and family counseling at the health centers. Given the importance of proper health education and behavior change strategies(Moeini et al., 2011; WorldHealthOrganization, 2010; Yazdizadeh et al., 2011), the present study examines pregnant women's attitudes who highly intended to have caesarean section in health care centers in Sabzevar, in two methods of routine educational intervention and a planned education program.

2.Material and Method

The present study is a prospective quasi-experimental study. The study population consists of primiparous women highly intent on having caesarean section delivery in health centers in Sabzevar.

The sample size was determined 45 women in the control group and 45 in the study group according to the relevant formula. The sampling method was multi-stage, in that, first health centers in the city of Sabzevar were classified in terms of socio-economic status into 3 classes. Then in each class of high, middle, and low, two health centers were randomly selected and divided into control and case centers. In each center, 15 eligible women who were willing to participate in the intervention and cooperation were chosen with the easy sampling method.

Primiparous women in their third trimester who were willing to have cesarean section and were eligible for vaginal delivery were enrolled. If a participant was not willing to participate or was eligible for cesarean section for any medical reason, she was excluded.

The intervention method was such that the control group received routine education related to the third trimester of pregnancy and had the choice of delivery, and the case group underwent scheduled intervention program, also an education session which ran for maximum of 60 hours, using group discussion techniques, films, and use of models. Within one to two weeks, printed materials about choice of delivery and after care was handed to women. At this stage, face to face education about choice of delivery method was given. The pre-test using questionnaires before educational intervention, and post-test, almost 2 months after intervention which was 2 to 3 weeks to estimated delivery time were completed in an interview. Delivery method was assessed by checking family records after delivery.

The data collection tool was a questionnaire including the following: 9 demographic questions, 16 awareness questions, 17 attitude questions on a five point Likert scale, and 2 intentional behavior questions. The attitude questions on a five point Likert scale ranged from totally agree to totally disagree, and for the ease of comparison and analysis of data, scores were based on 100. Thus, the range of the score of each attitude question and mean of total scores were from 0 to 100, and was classified as score of 0 to 25 poor, 25 to 50 moderate, 50 to 75 good, and 75 to 100 very good. The validity of The questionnaire was made through content validity. Thus, the questions related to attitude were extracted after reviewing scientific

literature and were approved by 3 experts in the field. The reliability of the attitude questionnaire was determined through Cranbach's alpha (α=0.70).

The data were analyzed using the statistical software SPSS, descriptive and analytical statistics, including central and dispersion indices and the Fisher exact tests, chi-squared test, Mann-Whitney,

Wilcoxon test, and independent t-test. Levels lower than 0.05 were considered significant.

3. Results

The mean age of the control group was 20.24 (4.73) and of the case group 23.44 (4.9) years, and the mean gestational age in the control and case groups was 6.46 (0.98) and 6.26 (0.78) months, respectively.

In this study, in the case group, 2 women (4.4%) had elementary education, 6 (13.3%) had middle school education, 18 (40%) had high school diplomas, and 19 (42.2) had higher education. In the control group, 4 (8.9%) had elementary education, 9 (20%) had middle school education, 16 (35.6%) had high school diploma, and 16 (35.6%) had higher education. The chi-square test did not reveal any significant differences between the two groups in respect of their education.

In the case group, 42 women (93.3%) had expected pregnancies, and in the control group, 44 (97%) had expected pregnancies. The chi-square test did not show any significant differences between the two groups in this respect.

Before intervention, Fisher's exact test did not show any significant differences between the two groups in respect of women's intentions to choose caesarean section delivery (see table 1).

Table 2 compares the overall attitude score between the control and case groups before and after the educational intervention.

Table 3 compares the mean scores of the attitude in the control and case groups, also between the two groups**.**

Table 1: Comparison the women intention for cesarean section selection in case and control group before intervention

Intention group	Case group	Control group
I would never select cesarean section	0(0%)	1(2.2%)
I would probably select cesarean section	22(48.9%)	27(60%)
I would definitely select cesarean section	23(51.1)	17(37.8%)
Fisher test result	P=0.28	

Table 2: Comparison the total means score of women attitude before and after intervention

Mean score of attitude	*case* Mean	SD	*Control* mean	SD	*Independent- t test result*
Before intervention	50.06	10.33	48.30	8.5	P=0.38
After intervention	49.83	9.05	40.75	10.26	P<0.001

table3: comparison of attitude mean scores of case and control groups, before and after intervention

Attitude toward type of delivery groups		**Case**		**Control**		**Result**
		Mean	SD	Mean	SD	
Mother right to select type of delivery	Before intervention	21.11	21.94	12.77	16.53	*P=0.04
	After intervention	17.22	1.83	15.00	1.79	*P=0.50
	Result	**P=0.17		**P=0.30		
vaginal delivery is not Agonizing	Before intervention	59.44	29.33	56.66	26.32	*p=0.53
	After intervention	58.33	2.38	46.11	2.76	*p=0.03
	Result	**p=0.83		**p=0.14		
delivery selection and financial status	Before intervention	49.44	23.53	50.55	26.90	*p=0.83
	After intervention	65.55	2.15	51.66	2.68	*p=0.006
	Result	**p=0.003		**p=0.83		
level of mother education and delivery selection	Before intervention	42.77	21.73	52.22	24.89	*p=0.07
	After intervention	68.33	1.79	47.22	2.33	*p<0.001
	Result	**p<0.001		**p=59		
vaginal delivery as sign of mother success	Before intervention	41.66	22.61	37.22	2.73	*p=0.37
	After intervention	30.55	1.98	47.22	2.33	*p=0.11
	Result	**p=0.007		**p=0.36		
mother knowledge in delivery selection	Before intervention	18.88	19.33	15.00	17.99	*p=0.31
	After intervention	16.11	2.00	16.11	2.07	*p=0.91
	Result	**p=0.34		**p=0.76		

vaginal delivery is not scaring	Before intervention	63.33	29.48	47.22	2.39	*p=0.61
	After intervention	67.22	24.88	33.88	2.45	*p=0.008
	Result	**p=0.01		**p<0.001		
vaginal delivery and sexual relationship problems	Before intervention	56.11	25.68	61.11	2.10	*p=0.93
	After intervention	61.11	2.10	48.33	2.15	*p=0.008
	Result	**p=0.33		**p=0.16		
Lack of fatigue in vaginal delivery	Before intervention	63.33	2.41	52.77	2.14	*p=0.053
	After intervention	52.77	2.14	40.55	2.15	*p=0.006
	Result	**p=0.08		**p=0.02		
Caesarean section delivery and lack of enjoyment of immediately seeing the baby	Before intervention	52.22	2.54	55.55	2.43	*p=0.60
	After intervention	54.22	2.54	38.33	2.29	*p=0.001
	Result	**p=0.67		**p=0.01		
Caesarean section and the intelligence of babies born in this way	Before intervention	51.11	2.33	51.66	1.87	*p=0.89
	After intervention	64.44	2.35	49.44	2.74	*p=0.001
	Result	**p=0.71		**p=0.02		
Seeing birth of the baby by mother	Before intervention	48.33	2.22	62.77	1.89	*p=0.66
	After intervention	51.11	2.71	49.44	2.74	*p=0.007
	Result	**p=0.81		**p=0.009		
Caesarean section delivery and quality of care in hospital and at home	Before intervention	50.00	2.44	52.22	2.60	*p=0.71
	After intervention	62.77	1.89	42.66	2.64	*p=0.002
	Result	**p=0.02		**p=0.58		
The role of delivery pressure in baby's health	Before intervention	47.77	1.49	46.11	2.49	*p=0.78
	After intervention	47.22	2.33	51.11	1.99	*p=0.45
	Result	**p=0.58		**p=0.13		
Unbearable pain of caesarean	Before intervention	62.22	2.17	52.22	2.12	*p=0.02
	After intervention	60.55	2.09	43.33	2.09	*p<0.001
	Result	**p=.57		**p=0.05		
Mother producing more milk in natural birth	Before intervention	51.66	1.79	43.33	1.71	*p=0.01
	After intervention	36.11	1.55	42.22	2.76	*p=0.14
	Result	**p<0.001		**p=0.63		
Caesarean section is not a suitable method of avoiding pain.	Before intervention	71.66	2.03	65.00	2.40	*p=0.11
	After intervention	42.77	2.23	37.77	2.53	*p=0.30
	Result	**p<0.001		**p<0.001		

Mann-Whitney** ***test result, ****Wilcoxon** ***test result.Note***

4. Discussions

The present study examines the attitudes of primiparous women highly intent on having caesarean section delivery in two methods of routine education and planed educational intervention.

With respect to the joy of seeing the baby after vaginal delivery, the educational intervention was able to maintain and enhance the desired attitude in pregnant women, whilst in the control group, it was not so. About the impact of education on the attitude, this study was consistent with the study by Tofighinia et al(Tofighi Niaki et al., 2010). In Kerman(Aali & Motamedi, 2005), where 44.1% completely agreed on better quality of mother-baby bonding in vaginal delivery and only 3.4% disagreed. Also in some studies, 20% believed in the mother-baby relationship(Manthata et al., 2006), and in another study, only 2% expressed improved bonding(Stoll, 2009).

In a study by Ahmadinia et al(Ahmad-Nia et al., 2009), women with higher educational status had chosen caesarean section. The present study was able to significantly improve the attitude of women about education and caesarean section and in this respect this study is in concurrence with other studies(Tofighi Niaki et al., 2010).

In the current study, the case group had a more favorable attitude toward wealth and caesarean section, which was the same as similar studies conducted in Iran(Tofighi Niaki et al., 2010).

Stoll study indicated that high percentage (53%) mentioned the natural process of the phenomena of birth as the reason for preferring vaginal delivery(Stoll, 2009), also studies conducted in Australia(Grivell & Dodd, 2010) have indicated that mother's anxiety was the most important influencing factor in choosing delivery method and fear of pain was identified as the primary reason for choosing caesarean section. In the present study, the case group gained a more favorable attitude toward vaginal delivery not being fearsome and this attitude remained stable until after intervention, which in terms of the effect of education on the attitudes was consistent with the results of the study by Tofighinia et al(Tofighi Niaki et al., 2010).

With respect to the type of delivery and intelligence of the baby, this study was able to find a significant difference between the control and case groups concurring with the study by Tofighinia et al(Tofighi Niaki et al., 2010).

In the study conducted, in most areas of attitude, difference was observed between the two groups, which could indicate the influence of techniques employed including: films, group discussion, brain storming, and printed materials, and their impact on attitude change(Gilbert, Sawyer, & McNeill, 2011).

According to results obtained, in comparison between the case and the control groups in the entire case group, a more desirable attitude toward vaginal delivery was maintained until after intervention. In the present study, the attitudes of participants in the case group did not change, but in the control group it was considerably reduced.

There have been some studies reporting the effect of education on attitude (Amidi & Akbarzadeh 2006; Sharifirad et al., 2010; Tofighi Niaki et al., 2010). However, in a study by Toghiani et al., education did not show any effect on attitude, and no difference was observed between control and case groups in terms of attitude. The present investigation is somewhat similar to both studies, as it managed to stabilize attitudes while showing a difference between the two groups.

Although the difference in attitudes between control and case groups was seen at the end of intervention, the general attitude in the case group was moderate to favorable. It is important to pay attention to this point in employing change of attitude methods. When people lack attitude and somehow they cannot use their accessible attitude from memory, it is more likely for them to be influenced by other subjects that may not be a true reflection of their own attitudes(Wilson & Schooler.J.W, 2008).

In fact every action can be predicted through attitude toward expected behavior, Therefore, results of studies indicate that the relationship between attitude and behavior can range from nothing to excellence(Fazio H.R, 2008). It seems there are a multitude of complex factors that are highly important both about attitude and other behavioral factors in those women who have made definite decisions to choose caesarean section. Thus, it is recommended that behavioral techniques and models of health education and enhancement of health be used alongside qualitative studies.

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